AUTOMOBILE PURCHASING BEHAVIOUR:

AN ANNOTATED BIBLIOGRAPHY

Stephen J. Arnold

School of Business
Queen's University
Kingston, Ontario

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Adler, Lee and James D. Hlavacek (1976), "The Relationship between Price and Repair Service for Consumer Durables," Journal of Marketing, 40 (April), 80-82.

This paper considers the extent to which repair service persisted as a problem to consumers during 1975 and the relationship between original product price and maximum repair costs owners would be willing to pay over a range of low-to high-priced consumer durables. A 1975 mail questionnaire of U.S. households (N = 500, 25% response rate) was used to collect data that was compared with results of a 1972 Louis Harris Poll. The authors found that in the 1972-75 period, both consumer attitudes and experiences with respect to durable goods repair service improved. The data also revealed that respondents were willing to pay disproportionately higher amounts to have the lower cost products repaired. Of relevance are results pertaining to autos: 22% had a great deal or some trouble with repair service (highest of 10 product categories) and that 25% regarded repair cost as too high (2nd highest). For mean original price of $3000 for auto, mean maximum repair cost was $258 (9%).

Agarwal, Manoj K. (1978), "Prediction of Consumer Choice in Demand Forecasting: An Evaluation of Alternative Approaches," Unpublished doctoral dissertation, University of New York at Buffalo.

This dissertation investigated the Rosen model, which proposed the explanation of demand for differentiated products. Individual demand functions for characteristics of automobile brand were estimated and the preference ranking of these brands was predicted. The predictive results of the Rosen model were compared with those obtained from LINMAP. The main conclusion was that, although the predictions of the Rosen model were weak as compared to those of the LINMAP model, it performed better than a random chance model. The usefulness of the Rosen model was found to be more in describing the demand functions rather than in predicting individual brand preferences.

Agarwal, Manoj K. and Brian T. Ratchford (1980), "Estimating Demand Functions for Product Characteristics: The Case of Automobiles," Journal of Consumer Research, 7 (Dec.), 249-262.

This paper illustrates how the Rosen (1974) model of consumer choice can be used to estimate demand and supply functions for product characteristics. Data on car purchase, transaction price, and car characteristics were obtained from 255 recent new car buyers in E rie County, New York, in the fall of 1976, representing a 17.5% response rate from a mail questionnaire. Information on the characteristics of the brand bought by respondents was obtained from Consumers Reports, etc. The model estimation proceeded in two steps: 1. determination of the marginal prices associated with each chosen set of characteristics, and 2. estimation of regression relationships between marginal prices and quantities of characteristics, consumer characteristics, and producer characteristics to yield a system of six demand and six supply equations for the marginal prices of displacement, handling, ride, passing speed, luggage volume, and rear leg room. The results revealed diminishing marginal utility for each attribute and that the intent to use the car for long-distance trips had the most significant impact on amounts consumers are willing to pay for additional car attributes. Other significant variables were home and garage ownership, education, number of showrooms visited, income, and family size to varying degrees. The supply equations revealed economies of scale in supply of additional amounts of each attribute and that foreign manufacturers had a cost advantage in supplying attributes associated with size and performance, possibly due to more efficient designs. It was also demonstrated how demand functions for characteristics can be used to recover consumer preference functions although the primary value of the model lay in its descriptive rather than predictive powers of individual choice.

Air Pollution Control Directorate (1973), "Canadian Automobile Driver Survey," Mobile Sources Division, Abatement and Compliance Branch, Air Pollution Control Directorate, Environment Canada, Report EPS 3-AP-73-10, October.

This report presents information obtained in response to a questionnaire mailed to a random sample of households in four Canadian cities - Vancouver, Edmonton, Toronto and Montreal. This study was designed to provide preliminary information on characteristics of Canadian drivers and their vehicles, use of vehicles and public opinion of automotive pollution control programs. The number of households reporting at least one car ranged from 85% in Montreal to 90.3% in Edmonton. Majority of Canadian households principal drivers are male (83.8% - Vancouver to 88.7% in Montreal). Use of car for commuting ranges from 69.7% in Toronto to 77.8% in Montreal. Full vehicle size are more popular than any other size (39.7% in Montreal to 52.2% in Edmonton). Approximately 40% of the driving population travel 7,501-12,500 miles per year. 47.3% of those surveyed expected no change in driving habits to the installation of pollution control programs. Seventy percent of those surveyed said they were willing to pay more for auto and operating costs to achieve a cleaner environment.

Alpert, Mark I., (1971), "A Canonical Analysis of Personality and the Determinants of Automobile Choice," in Combined Proceedings 1971 Spring and Fall Conferences, Fred C.Allvine, ed., Chicago American Marketing Association, 312-316.

A convenience sample (n=100) of male graduate business students provided 88 usable responses on the desirability of twelve automobile attributes, the perceived difference among competing automobiles, in terms of each attribute, and fifteen personality trait scores from the Edwards Personal Preference Schedule. The attribute desirability and difference scores were multiplied to obtain the determinance of each attribute which was then correlated with the personality trait scores. Although the eleven significant correlations out of a possible total of 180 had no obvious interpretation, the two sets of attributes were then combined in a canonical correlational analysis. Alpert interpreted the first root as showing a relationship between friends owning a similar type, low acceleration, safety, economy of operation, good resale value with the personality attributes of non-aggression, non-economy,intraception, and endurance. "Matched with attributes of what appears to be an economy car is a person who might be described as a hard-working and passive follower." The remaining attributes of those generated in exploratory interviews with the preliminary sample of students were handling, durability, styling, comfortable ride, luxurious interior, low purchase price, and friends think highly of car.

Armstrong, A.G. and J.C. Odling-Smee (1979), "The Demand For New Cars II - An Emperical Model for the UK," Oxford Bulletin of Economics and Statistics, 41 (August), 193-214.

A theoretical model of the demand for new cars in the UK is adopted to quarterly UK data for the period 1963-1976. It was found that the demand for new cars is explained in terms of normal and abnormal replacement demand. The former is determined partly historically by past purchases and partly by the level of income, price, liquidity, hire-purchase regulations and the latter by changes in exogenous variables. The best equation explains 90% of the variation in demand and it predicts demand in 1977 fairly well.

Atkinson, L. Jay (1980), "Demand for Consumer Durable Goods," Survey of Current Business, (June), 5-10.

Demand elasticities are:

Income 2.455

Retail price -1.31

Automotive News (1980), "First Impressions Come Right From Car's Finish," November 24, p E-16.

The auto industry realizes new-car buyers are attracted not only by improved gasoline mileage but by "fit and finish". The auto industry is responding to the public perception that some foreign cars have a better quality finish by developing a custom-finish for N.A. cars through advances in coatings and color finishes.

Automotive News, (1980), "Multicar Families On the Rise, Ad Bureau Study Finds," September 1, 3.

The number of households owning more than one car is on the increase, according to a study by the Newspaper Advertising Bureau. Almost 75% of the households which buy new cars owned 2 or more cars compare to only 67% in 1976.

Automotive News (1980), "Quality Is Rated First Among Buyer Concerns," November 24, p 21.

Harold A. Poling, executive vice-president of Ford addressing the ASQC stated that the American consumers now place quality at the top of their list of automotive demands. Fuel economy comes second. In early 1970's styling was the consumers number one concern. In quality ratings, American cars usually come in second to the imports.

Automotive News (1980), "U.S. Auto Buyers Demanding Quality," June 30, 9.

Results of a Wright State University study show growing consumer interest in the reliability and quality of automobiles. Increased demand for foreign vehicles, 30% (1980) and 35% (1981). Reason is the perception of greater reliability and quality of imports. However, of the 27% that purchased a subcompact in the last two years, 61% still bought American. Order of importance in purchase decision: fuel economy, selling price, product reliability, performance and overall quality.

Automotive News (1981), Auto-buying Mood Remains Grey," August 24, p. 33.

A survey by the University of Michigan Institute for Social Research shows that consumers are holding firm to their negative attitudes on buying cars. One-third of those surveyed said high prices were a deterrent to buying an automobile, although these were mitigated by rebates and price reductions. High interest rates also act as a deterrent to new car purchases, along with low confidence in the American government's economic policies.

Automotive News (1981), "GM Chairman Roger Smith," November 9, p. E-4 and E-14.

An interview with GM's chairman, Roger Smith, discusses the introduction of small trucks and cars, GM's pricing policies, and indicates that utility, fuel economy, quality, and price are the most important purchase considerations.

Automotive News, (1981), "Researchers See Big-Car Trend," April 27, p. 46.

A study published in Transportation Research by a University of California group claims that demographics and buying trends indicate the market share of six-passenger cars will increase to 28% of 1990 sales. Fuel costs amount to approximately 15% of ownership costs. Buyers chose their car size by the number and ages of their children and the size and ages of the cars already owned.

Automotive News (1981), "Study Shows Buyers Swinging To Big Cars," January 12, p. 20

A November 1980 poll of 800 adults taken by the Newspaper Advertising Bureau indicated that car buyers are more likely to choose a bigger car and have a higher preference for North American built cars than at the beginning of 1980. The majority of those interviewed were wary about making a major purchase due to the economic conditions. Small car preference dropped from 55% in January to 36% in November. Full-size car preference increased from 37% to 50%, and mid-size car preference increased from 24% to 31%. In January, 34% of those who planned to buy a subcompact favoured an import. This figure dropped to 26% by November.

Automotive News (1981), "Women's Market Demands Outlined by Ford Research," July 20, p. 57.

Research by Ford shows that women's concerns about cars center on convenience, safety, and fuel economy. Women are also driving more, and are interested in learning about automobiles.

Beggs, Steven D. and N. Scott Cardell (1980), "Choice of Smallest Car by Multi-vehicle Households and the Demand for Electric Vehicles," Transportation Research-A, 14A, 389-404.

A model explaining choice of smallest car by multi-vehicle households is extimated on data collected in the Baltimore area in the spring of 1977. The model is multinomial logit with 20 choice categories defined by five size classes and four age categories. Household tradeoff among value, operating cost, and size of cars are analyzed from 3 to 6 observations. It was found that households with lower incomes were more likely to focus on purchase cost instead of operating cost when making car choice decisions. Households value additional size in their automobile much more if the only alternative vehicle in the household fleet is a pick-up truck or to a lesser extent, a van. Older cars provide a lower level of perceived services. Estimation of alternative models suggested that better educated, younger households prefer smaller, foreign cars. The value of vehicle size depends very strongly upon family size.

Bell, Gerald D. (1968), "Self-Esteem, Persuasibility and Remorse Among Car Buyers," in Explorations in Consumer Behavior, Montrose S. Sommers and Jerome B. Kernan eds., Austin, Texas: The Bureau of Business Research, The University of Texas at Austin, pp. 77-102., discussion: pp. 102-18.

Out of 289 new car buyers at a U.S. West Coast, urban Chevrolet dealership, 234 were interviewed, questioned and classified on measures of general and specifics of confidence, persuasibility, use of purchase pals, and degree of cognitive dissonance. The results were as follows:

1. There was no relationship between individual specific-self confidence and persuasibility.

2. There was a curvilinear relationship between buy specific self-confidence and persuasibility, even when generalized self-confidence levels were controlled. That is, those medium in self-confidence were more easily persuaded than those either high or low in self-confidence.

3. Purchase pals were used for various combinations of generalized self-confidence and specific self-confidence. For example, there was a greater use of pals for those high in generalized self-confidence but low on specific self-confidence.

4. A purchase pal was used by 77% of the buyers. Of these, 18% used their spouse, 21% a close relative, 41% a close friend, and 22% an acquaintence or friend.

5. There was no relationship detected between persuasibility and degree of self-confidence except when the buying team self-confidence was controlled, when it was found that a buying team low on self-confidence who were more easily persuaded, were also lower in cognitive diss. Similarly, a team high on self-confidence, who were not easily persuaded, were also lower in cognitive dissonance.

6. The better the service, the lower the cognitive dissonance.

7. There was curvilinear relationship between persuasibility and service. That is, those either low or high on persuasibility got the better service.

Bell, Gerald D. (1967), "Self-Confidence and Persuasion in Car Buying," Journal of Marketing Research, 4 (February) 46-52.

A total of 234 personal interviews were conducted with those who had purchased a new car from a Chevrolet dealer in a large urban area in the western United States within the previous one to eight days. Measures were made of generalized self-confidence, specific self-confidence in buying a car, the use of a purchase pal, and persuasibility. The findings revealed that there is no association between specific self-confidence and persuasibility. Specific and generalized self-confidence are highly related for men and moderately related for women. The higher a person's general self-confidence, the higher is his specific self-confidence. Purchase pals were used to varying degrees depending upon the combination of general and specific self-confidence. For example, those with high general self-confidence but low specific self-confidence tended to more to use a friend or relative. People with general and specific self-confidence infrequently used a purchase pal. Those who were low on both general and specific self-confidence used purchase pals to a moderate degree. Those low on general and high on specific self-confidence used purchase pals quite often. Those who were quite confident in general but low on specific self-confidence most frequently used a purchase pal who was a casual friend or acquaintance. Buying teams that had high and low specific self-confidence were relatively low on persuasibility versus those medium on specific self-confidence who were high. This non-linear relationship held even when generalized self-confidence was controlled. General self-confidence appeared to have no direct influence on customer susceptibility to persuasive communications.

Bell, Gerald D. (1967), "The Automobile Buyer after the Purchase," Journal of Marketing, 31 (July), 12-16.

Personal interviews were conducted from one to eight days after the purchase of a new car from a Chevrolet dealership in a large urban area in the Western part of the United States. Of the 289 new cars sold during the summer months of 1965, interviews were completed with 234 respondents. Measurements were made of cognitive dissonance (degree of unease about purchase), persuasibility (a combined measure from both the respondent's perception as well as the salesman's perception), and perceived quality of service. The results revealed that there was no relationship between persuasibility and cognitive dissonance. However, when the self-confidence of the customer was controlled, the results changed. As the high self-confident customers were more easily persuaded, they exhibited more cognitive dissonance. In contrast, as the low self-confident customers were more easily persuaded, they exhibited less cognitive dissonance.

Other results revealed that as the quality of service rose, there was lower cognitive dissonance about the purchase. Also, those either more easily persuaded (flakes) or those not easily persuaded (grinders) got higher quality service than those who were medium on persuasibility.

Birdwell, A. Evans (1965), "Influence of Image Congruence on Consumer Choice," in Reflections on Progress in Marketing, L. George Smith, ed., Chicago: American Marketing Association, 290-303.

Twenty-five car owners were selected at random from the four groups of new car purchasers of: 1. owners of 1963 Cadillac Lincoln Imperial, 2. owners of 1963 Oldsmobile, Chrysler, Buick, Pontiac, 3. owners of 1963 Ford, Chevrolet, and Plymouth, and 4. owners of 1963 Volkswagen, Falcon, Renault, Rambler, Corvair, and Volvo. These respondents were asked to judge their own car, the cars selected for the study, and finally to judge themselves on each of 22 semantic differential scales. The results lead the the following conclusions: 1. A high degree of congruity existed between the way respondents from all four ownership groups perceived their and themselves, with the highest of degree congruity for group 1 and the lowest for group 4. Additional analysis suggested that economy of transportation was an important motive for automobile purchases made by group 4 respondents. 2. A varied number of significant differences between the ownership group's perception of cars was discovered.

Boyd, J. Hayden and Robert E. Mellman (1980), "The Effect of Fuel Economy Standards on the U.S. Automotive Market: An Hedonic Demand Analysis," Transportation Research-A, 14A, 367-378.

A data base measuring attributes and observed market shares of some 150 car models and sub models for the 1977-1978 model years is used to estimate the parameters of the multinomial logit model and the hedonic demand model, basically an extension of the logit model except that each logit parameter follows a normal distribution rather than being a constant. Significant coefficients were obtained for purchase price, fuel consumption, acceleration rating, interior noise level, styling representing the longer, lower, wider look, frequency of repair, and handling. Variables representing exterior size, weight, passenger space and cargo volume were not statistically significant. The attribute valuations implied by the parameter estimates were obtained by relating the parameter for the ith attribute to the parameter for price. The valuations ranged down from styling, noise, acceleration, fuel economy, handling, and repairs. The market effects of automobile attributes ranges were estimated by computing price elasticities of market share and simulating a change in price differential between large and small car classes, a change in price by Chrysler, and an increase in the price of gasoline. The results were interpreted as implying that the market for new automobiles was relatively stable, in the sense that relative market shares of size classes or of individual manufacturers were somewhat insensitive to rather large perturbations in gasoline prices or in class or in manufacture average purchase prices.

Burns, Alvin C. and Donald H. Granbois (1977), "Factors Moderating the Resolution of Preference Conflict in Family Automobile Purchasing," Journal of Marketing Research, 14 (February) 77-86.

A total of 101 married couples provided preference ratings for a list of alternatives in each of the 11 different automobile-related decision areas of the type of financing, body style, place of purchase, automobile size, type of radio, seat upholstery, type of transmission, price range, make, basic colour, and type of brakes. Also queried was whether it would be husband, wife, together, neither one who was most likely used to resolve differences. A card sorting task indicated the importance of his or her preference being reflected in the couple's designated final choice for that particular decision (involvement) and a second card sorting indicated the importance to the individual of his or her spouse's preferences being reflected in the couple's designated final choice (empathy). The findings indicated that spouses typically share first choice preferences and generally demonstrate some degree of similarity in their preferences toward other alternatives. All 11 of the average husband involvement levels are greater than the average wife involvement levels; 9 of the 11 wife empathy levels exceeds the corresponding husband empathy levels. In both groups, involvement was greatest with financing, price, size and make and the least with place and radio. The majority of the husbands' means were in the high involvement-low empathy quadrant, whereas the wives' positions concentrated in the low involvement-high empathy sector.

Across the 11 automotible related decisions, the wife is credited with practically no autonomous decision-making power, the husband, however, maintains considerable arbitration power in the type of brakes and the type of transmission decisions. He has appreciable power in decision on radio, place of purchase, and automobile make. The six other decisions are basically joint, with the exception of seat upholstery decision, which shows no clear pattern.

Burns, Lawrence D., Thomas F. Golob, and Gregory C. Nicolaidis (1976), "Theory of Urban-Household Automobile-Ownership Decisions," Transportation Research Record, 569, 56-75.

Automobile-ownership behaviour was modelled as a function of social economic factors and the availability in levels of service of public transportation systems. Decision makers were assumed to maximize their individual and household utilities within budget and time constraints. The benefit of increased mobility were weighed against the loss in other consumptions attributable to ownership of one or more automobiles. Variables specific to residential and activity-centered locations included the attractiveness of destination served by public transit, the attractiveness of those not served by public transit, and respective travel times by automobile and transit. Estimation equations were developed through the introduction of functional forms for utility components and random utility terms representing variances in perception and taste and omitted factors. Multinomial logit models were used to define the probability of homogeneous groups of households choosing to own a specific number of automobiles. Calibrations were performed by using data from home-interview surveys and network simulations in the Detroit metropolitan area. All coefficients representing partial equilibrium market parameters were signed correctly and were significantly different from 0 where expected, and goodness-of-fit measures indicated acceptable model descriptive power.

Cardell, N. Scott, and Frederick C. Dunbar (1980), "Measuring the Societal Impacts of Automobile Downsizing," Transportation Research-A, 14A, 423-434.

This paper used a cost-benefit methodology to evaluate various strategies aimed at reducing automobile gasoline consumption. These strategies are the current Corporate Average Fuel Economy (CAFE) regulations in various pricing instruments including gasoline taxes and MPG based vehicle taxes. It was concluded that the social cost of CAFE are substantially higher (probably on the order of $20 billion per year) than the social cost of gasoline taxes in achieving comparable oil import reductions. That is, forcing consumers to buy undesirable cars is more onorous to them than simply raising fuel prices and allowing them to make their own adjustments. It was also questioned whether CAFE had positive net social benefits even allowing liberal estimates of the social benefits of oil conservation. A feature of the cost-benefit analysis was the use of a probability choice model of auto-purchase behaviour to allow for both changes in the non-price attributes of consumer goods and also the dispersion of preferences for these attributes among consumers.

Carlson, Rodney L., (1978), "Seemingly Unrelated Regression and the Demand for Automobiles of Different Sizes, 1965-75: A Disaggregate Approach," Journal of Business, 51 (2), 243-262.

Sales figures for every make and model of automobile as supplied by R. L. Polk and Company of Detroit for 1965 to 1975 were used to estimate a five-equation model for subcompact, compact, intermediate, full-size, and luxury automobiles using the method of seemingly unrelated regression estimation. The results revealed that disposable income was the variable of greatest impact on the model. Sales price was found to be a powerful variable although auto stock was not found significant in all equations. Furthermore, sales price appeared to have less impact on subcompact and luxury cars than on compact, intermediate and full-size automobiles. On the other hand, income seemed to be a more relatively important factor in the subcompact and luxury markets. The model also suggested that sales of intermediate and full-size models were strongly affected in an adverse manner by the price of gasoline and that higher gas prices caused increased demand for subcompact and compact cars. In addition, the coeffients of the energy shortage dummy variables showed that the gasoline shortage increased the demand for subcompacts, but decreased the demand for all other automobiles. An analysis of elasticities showed that subcompact demand seemed to be inelastic but that demand for compact, intermediate and full-size automobiles was slightly elastic. In summary, the model indicated that the total demand for automobiles depended on income levels, while the distribution of demand across types of cars is a function of price levels and energy considerations. Forecasting implications were also dicussed.

Carlson, Rodney L. and M. Michael Umble (1980), "Statistical Demand Functions For Automobiles and Their Use For Forecasting in an Energy Crisis," Journal of Business, 53 (April), 193-204.

This paper is further to Carlson (1978) in which automobile demand functions for five size classifications were estimated using data from the period 1965 - 75. In this new paper, the model is updated using quarterly data from 1967 to 1978. The results reveal that disposable income is the variable of greatest impact in the model, each car price is significant in all equations, gasoline price is significant and positive in the subcompact equations, significant and negative in the standard equation, not significant in a luxury equation and absent from the intermediate equation. A dummy variable for energy crisis indicates that in times of gasoline shortage, the demand for subcompacts will increase, the demand for compacts will not significantly change, and that all other automobiles will decrease in sales. Automobile demand for the period 1979-83 was forecasted on the basis of two assumptions (optimistic and pessimistic) made about each predictive variable in the next five years. Graphs are provided which indicate the high and low levels of demand for each type of car given the sixteen scenarios. The authors note the dominance of the subcompact automobile regardless of the assumptions used in the projections. Subcompact demands can be expected to average 35% to 45% total demand by 1983 versus less than 25% in 1978.

Chatelaine Consumer Council (1973) The Chatelaine Automotive Study, Ballott #8, Toronto: MacLean-Hunter, 481 University Ave.

Questionnaires were mailed in May, 1973 to members of the Chatelaine Consumers Council as well as to a cross-section of Chatelaine (French) subscribers resulting in 1,615 responses for a 54.5 percent return. The results reveal that car ownership rose in accordance with household income. Among all cars in respondents' households, 60.2 percent were bought new and 38.3 percent were bought used. About 2/3 of women owning households have some influence in selecting make, model and color of car. The intention to buy a car in the next year increases with rising incomes.

Chow, Gregory C. (1957), Demand For Automobiles in the United States: A Study in Consumer Durables, Amsterdam: North-Holland Publishing Company.

A theory of consumer demand which takes liquid assets holdings into account was formulated, and tested against existing theory of demand in the determination of automobile stock in the United States. Purchase of new automobiles was first assumed to be the difference between desired stock, as determined by existing demand theory, and depreciated old stock. Then were introduced two short-run factors: time lag in the adjustment of stock to its equilibrium level, and the amount of saving which change in ownership of durables is a part. The short-run theory of new purchase finally obtained was also applied to explain total stock.

Cohen, Morris (1956), "How Big is the Automobile Market?" Business Record, National Industrial Conferences Board, (January), 7-12.

Demand elasticity is: Income 2-283.

Colvin, Michael, Roger Heeler, and Jim Thorpe (1980), "Developing International Advertising Strategy", Journal of Marketing, 44 (Fall), 73-9.

Promotion strategies for a major car company are developed for different international market segments by comparing consumer preferences measured by trade-off analysis with the perceptions of new and existing products. The study is based upon 200 - 300 respondents from the countries of Germany, United Kingdom, France and Sweden. Of relevance is the listing of several of 27 attributes "shown to be significant by past research" and the ratings of current and possible new models of cars on these attributes for respondents in each of the four countries.

Cowling, K., and J. Cubbin (1972), "Hedonic Price Indexes For United Kingdom Cars," Economic Journal, 82, 963-978.

This paper explains the use of hedonic measures to correct price indexes for quality changes for the United Kingdom car industry. Tables and charts comparing the movements of this index with those of other indices describing year-to-year changes in prices are provided.

The dependent variable of price is regressed on brake horsepower, length, fuel consumption, four-speed gear box, luxury, power brakes

Cox, Eli P. III (1975), "Family Purchase Decision-Making and the Process of Adjustment," Journal of Marketing Research, 12 (May) 189-195.

A cross-sectional study was conducted using questionnaire data obtained from ninety-three married couples who lived in a medium-sized U.S. mid-western town. Two alternative operational definitions concerning the degree of adjustment between husband and wife were obtained on the basis of a similarity of rank ordering of preferences for ten automobiles and the similarity of preferences based upon a multi-attribute attitude model. The analyses related the two definitions of adjustment against measures of length of marriage and stage of the family life cycle. The results revealed that the similarity between husband's and wife's automobile preferences generally seemed to be greater for the families in the later stages of the family life cycle, as well as for families who have been married longer. However, there was a decline in agreement after twenty-six years of marriage as well as in the last two stages of the family life cycle. A comparison of family life cycle and length of marriage indicated that the family life cycle was the superior explanatory variable and suggested that the process is not simply a function of time, but rather a function of the cumulative pressures towards goal congruent behaviour. The analysis tended to suggest that the presence of children was one of the principal pressures which tended to bring about this goal-congruent behaviour. Families who do not have children and those who no longer have children at home are less likely to be goal-congruent.

Cunningham, Isabella C.M. and Robert T. Green (1974), "Purchasing Roles in the US Family, 1955 and 1973," Journal of Marketing, 38(October), 61-64.

A random sample of 248 Houston wives were drawn on a random basis from the telephone directory to represent a 22% rate for the self-administered questionnaires. Among the questions, the wife was asked "Who decides which make (such as Ford or Buick) of automobile to buy?" The results revealed that 52% said that the husband usually did, 45% said both husband and wife, and 3% said wife usually. These results were compared with a similar study done in 1955 by Sharp and Mott among 727 Detroit wives where the corresponding results were 70%, 25% and 5%.

Danes, Jeffrey E. and John E. Hunter (1980), " Designing Persuasive Communication Campaigns: A Multimessage Communication Model," Journal of Consumer Research, 7 (June) 67-77.

A multimessage modelling procedure was applied to pretest data collected from 108 individuals who reported their purchase intentions, conditional intentions, and beliefs about the Fiat 131. Summary data were provided in which persuasive, belief-discrepant messages were derived from the average predicted intention change for each of the 22 possible messages. Of these 22 possible messages,7 were found to produce significant positive intention change and 7 produced significant negative intention change. The average significant predicted changes were used for calculating message utility scores. The model was designed for selecting messages that showed the greatest promise of changing purchase intentions in a desired direction.

Davis, Harry L. (1976), "Decision Making Within the Household," Journal of Consumer Research, 2 (March), 241-260.

The existing research on household decision making is reviewed in terms of three questions: 1. which family members are involved in the economic decisions? 2. What is the nature of family decision processes? and 3. Are decision outcomes affected by differences in family role structure and decision strategies? Several studies of automobile purchases are discussed.

Davis, Harry L. (1970), "Dimensions of Marital Roles in Consumer Decision-Making," Journal of Marketing Research, 7 (May), 168-77.

A convenience sample of 100 husbands and wives living in four Chicago suburbs provided information on individual responses to questions concerning when to purchase, how much money to spend, make, model, colour, and where to purchase the last automobile purchase. The questions were posed on a five point scale ranging over husband decided to wife decided. The results revealed that approximately 65% of both husbands and wives agreed that the husband had more influence than the wife in the first four decisions and that approximately 50% of the couples said that the husband and wife had equal influence in the last two decisions. Although predominance could be detected in certain types of decisions, it was observed that there was considerable variability in husband-wife roles in these decisions and that it would be misleading to generalize about husband and wife roles in any absolute sense. The results also revealed a high level of agreement in husband-wife perception and that the largest disagreement between husbands and wives occured for decisions that involved what might be termed aesthetic considerations. The percentage of couples who agreed about their roles in decision-making averaged 63% for the six automobile purchase decisions.

Davis, Harry L. and Benny P. Rigaux (1974), "Perception of Marital Roles in Decision Processes," Journal of Consumer Research, 1 (June), 51-62.

Influence exerted by husbands and wives at different stages in the decision process was examined by 25 economic decisions in a convenience sample of Belgian households in which both spouses were questioned. The analysis considered changes in marital roles throughout decision-making and extent of role consensus within families. The results revealed that the automobile purchase was average in terms of extent of role specialization but slightly skewed towards the husband in terms of relevant influence of husbands and wives. In terms of extent of husband-wife agreement about roles over problem recognition, search for information, and final decision, the proportions for nonconsensus due to modesty, consensus, and nonconsensus due to vanity were 24-53-23, 18-58-24, and 19-64-17 respectively.

Donnelly, James H., Jr., and John M. Ivancevich (1970), "Post-Purchase Reinforcement and Back-Out Behavior", Journal of Marketing Research, August 7, 399-400.

Post-purchase supportive information to new car purchasers in an experimental group resulted in 2.5% backing out of the deal versus 6% back-out in the control group.

Eastwood, David B. and Robert Anderson (1976), "Consumer Credit and Consumer Demand for Automobiles," Journal of Finance, 31 (March), 113-123.

This paper describes a method of estimating one of the terms of credit-the length of contract. The length of contract was found to be an important factor in the explanation of consumer expenditure for automobiles and parts. Thus, it indicates regulation of automobile credit is a feasible method of controlling aggregate demand should traditional policy measures be unable to achieve desired objectives. For example, if the length of contract was reduced from 30 to 20 months, the estimated elasticity suggested that there would be a 13.3% reduction in consumer expenditure on automobiles and parts.

Ehrlich, Danuta, Isaiah Guttman, Peter Schönbach, and Judson Mills (1957), "Postdecision Exposure to Relevant Information," Journal of Abnormal and Social Psychology, 54, 98-102.

A total of 65 new car owners and another 660 respondents who owned cars manufactured 3 years before the study, were interviewed. It was found that new car owners read advertisements of their own car more often than of cars they considered but did not buy and other cars not involved in the choice. The selected tendencies in readership were much less pronounced among old car owners. The prediction that new car owners would read advertisements of considered cars less often than of other cars was not confirmed.

Ellwood, Wayne (1978)," Urban and Regional Development Factors Affecting the Role of the Automobile," Role of the Automobile Study, Working Paper No. 8, Strategic Planning Group, Transport Canada, December.

This paper explores the costs and benefits to individuals and governments relating to individual modes of transportation in urban areas. It identifies the major alternatives to continued automobile reliance and identifies those federal initiatives which could be pursued to greatest effect in support of provincial and municipal goals and objectives. A major section of the report discusses trip generation and major urban trip characteristics. In 1970 the auto accounted for 91% of all passenger miles travelled in urban areas. Transportation mode choice is dependent on: income, number of persons per household; cost and availability of alternate services for specific trip purposes, age and sex of household members. Statistics Canada Survey data on household expenditure in urban areas (1974), indicates that as income rises, expenditures on private automobiles increase while expenditures on public transport decrease. There is a trend toward lower automobile ownership in the largest cities. Twenty percent of population are captive to public transport. Total vehicle miles will more than double by the end of the century (230%), reflecting higher household formation rates and a trend to more workers per household.

Engel, James F. (1963), "Are Automobile Purchasers Dissonant Consumers?" Journal of Marketing, 27 (April), 55-8.

Two groups of Ann Arbor, Michigan, men were interviewed within three days of a Chevrolet manufacturer's ad appearing in the Ann Arbor News. One group was composed of recent purchasers of a Chevrolet (88) and the other group was composed of men by the sampling method matched on social class, age, and income who had not purchased a Chevrolet. During the three day period, a local Chevrolet dealer also ran a full-page advertisement featuring prices. It was found that a larger portion of the owners either read some or read most of the dealer's ad. There was no recall of the manufacturer's ad. When subjects were exposed to five advertisements at four-second exposures, where one ad was the manufacturer's ad, it was found that there was no significant difference in the levels of recognition of the manufacturer's ad. Respondents were also exposed to 15 agree-disagree statements regarding positive and negative aspects of the performance of 1962 Chevrolet and 1962 Plymouth automobiles. There was no level of disagreement between the two groups on the ads nor were there differences in subsequent recall of the 15 statements. It was also found that 17% of the new owners visited more than one Chevrolet dealer and of these, 89% were making price comparisons. Approximately 60% of the Chevrolet owners owned a Chevrolet before.

English, Wilke and W.H. Cunningham (1977), "A Stochastic Analysis of Repeat Purchasing Behaviour among Automobiles Buyers," in Contemporary Marketing Thought: 1977 Educators' Proceedings, Barnett A. Greenberg and Danny N.Bellenger, eds., Chicago: American Marketing Association, 513.

A sample of consumers provided repeat purchasing data covering four automobiles. These purchases were modelled using the Bernoulli model on data divided into subgroups of homogeneous probability, and the Markovi model using the data in its aggregate form. The process appeared to be of first-order when analyzed in the aggregate, but of 0-order when the analysis was performed on separate homogeneous classes. These results were interpreted as indicating that overall brand perception as evidenced by the consumers' historical propensity to purchase may be of more importance than a repeat purchase factor than even actual purchasing experience.

Evans, Franklin B. (1959), "Psychological and Objective Factors in the Prediction of Brand Choice: Ford Versus Chevrolet" Journal of Business, 32 (Oct.) 340-69.

A sample of seventy-one Ford owners and sixty-nine Chevrolet owners of 1955-58 models was drawn from the Chicago suburb of Park Forest, Illinois in order to test the hypothesis that Ford owners were more masculine, independent, impulsive, alert to change, and self-confident, while Chevrolet owners were described as conservative, thrifty, prestige-conscious, less masculine, and seeking to avoid extremes. The Edwards Personal Preference Schedule was administered and several demographic, socio-economic measures were taken. All hypothesis of no differences on the eleven personality scales could not be rejected with the exception of the dominant scale using the two-tailed, t-test although nine of the eleven scales had differences in the predicted direction. Comparisons on the demographic variables as well as linear discriminant functions computed based on the personality and demographic variables separately and combined did not effectively discriminate between the two groups.

Evans, Franklin B. (1964), "True Correlates of Automobile Shopping Behaviour," Journal of Marketing, 28 (January), 65-6.

This article responds to the criticisms raised by Murphy (1963).

Evans, Franklin B. (1962), "Correlates of Automobile Shopping Behaviour," Journal of Marketing, 26 (October), 74-7.

A subsample of 20 shoppers (visited dealers of different makes) and 20 non-shoppers (visited only one dealer) was selected from Evans' (1959) Park Forest sample of Ford and Chevrolet owners and then were compared on future automobile purchase plans re the brand, the 10 scales of the Edwards Personal Preference Schedule, and 7 demographic/socio-economic measures. The latter two comparisons were made using both mean scores on the individual items as well as two linear discriminant features. Differences were found and described in the article as well as the fact that the two discriminant functions could correctly classify approximately 80% of the cases. Comment: the sampling procedure and small sample sizes suggest caution in making anything of the substantive results.

Farley, John U., John A. Howard, and Donald R. Lehmann (1976), "A 'Working' System Model of Car Buyer Behaviour," Management Science, 23 (November), 235-247.

A national probability sample of respondents expressing some interest in buying a subcompact car within the next two years were interviewed by telephone in five waves over an 18-month period prior and over the introduction of a new subcompact car. A four-equation model based on the endogenous variables of brand comprehension, confidence in judging brands, attitude towards the brand and intention to purchase was estimated based on the exogenous variables of advertising recall, intention, sex, age, income, education, number of licensed drivers and whether or not the principal driver would be a child. It was found that parameters of the endogenous model variables were stable over-time, alternative brands, parameter estimation methods, and specifically-defined sub-groups of the panel. Parameters of the exogenous model variables, however, varied systematically. In all, 120 sets of 4 regressions were run for the groups of five ways for interviewing groups, and three different brands using both Ordinary Least Squares and Two-Stage Least Squares method. The coefficients of income and education suggested that the new brand appealed to a low to moderate income level segment, although the exogenous variables had less explanatory power and a given relationship than did the endogenous variables. The coefficient of sex in the confidence equation indicated that this product was one which males were likely to feel better informed.

Farley, John U., John A. Howard and David Weinstein (1974), "The Relationship of Liking and Choice to Attributes of An Alternative and Their Saliency," Multivariate Behavioral Research, 9 (January), 27-35.

An analysis was made of data from 265 respondents who mentioned a specific subcompact automobile in a recall question using a sample of Denver residents contacted in the fall of 1969. These respondents gave an overall evaluation on continuous scales of the brand and of 20 specific attributes of the brand, as well as a measure of intention to purchase. Importance of the specific attribute was measured similarly on a continuous scale. The attributes in one model were weighted by the saliency scores and in the other model unweighted. In both models, the attributes were factored into three factors prior to regressions against the dependent variables of overall attitude and intention to purchase. The unweighted evaluations proved more consistent and important predictors than did the same evaluations weighted by the saliency. Details on the means of both the ratings and saliencies as well as their correlations with liking and intention to purchase are provided.

Farley, John U., Jerrold Katz, and Donald R. Leahmarn (1978), "Impact of Different Comparison Sets on Evaluation of a New Subcompact Car Brand," Journal of Consumer Research, 5(September), 138-142.

A five-wave national telephone survey was made of respondents screened with a question about interest in purchasing a subcompact car after random selection on the basis of telephone numbers. The panel was maintained for 18 months, with two waves of data collected before and three after, the introduction of the new brands. In all, 709 respondents completed all five-waves of interviewing, representing 44% of respondents completing the first wave. Each respondent rated the new brand and two other brands depending upon of which of four groups they were in. The respondents evaluated resale value, gas economy, value for money, overall appearance of the car's exterior, ease of driving, simplicity of design and easy maintenance, reliability and quality, pick up and acceleration, price and availability of desired special features. Overall measures were also taken on attitude, knowledge, intention to buy, confidence to make judgements, and likelihood of buying. A multivariate analysis of variance revealed large differences across waves, significant but small differences across groups, and a barely significant interaction between groups and waves. The largest contrast involved increased familiarity and in confidence to make judgements about the new brand. Intention to buy showed no significant difference over the waves. For the established brands, none of the overall measurements were affected by the entry of a competitive brand.

Felson, Marcus (1978), "Invidious Distinctions Among Cars, Clothes, and Suburbs," Public Opinion Quarterly, 49-58.

During May/June of 1974, 730 Chicago-suburban households were interviewed by telephone with phone numbers taken from a systematic sample of three suburban street-address directories. Among other things, respondents were asked their opinions on seven automobiles, on a scale of excellent, good, average, below average, and poor. The distributions differed over the seven autos with the highest ratings going to Cadillac, Buick Electra, Ford LTD, Ford Torino, Chevrolet Vega, Plymouth Fury, and AMC Gremlin. Respondents were also asked to state the company which produces the automobile models of Satellite, Sebring, El Camino and Silver Cloud and more than half the respondents did not know or wrongly guessed the answers.

Ferber, Robert and Lucy Chao Lee (1974), "Husband-Wife in Family Purchasing Behaviour," Journal of Consumer Research, 1 (June), 43-50.

A panel of recently married couples (summer of 1968) in the cities of Peoria and Decator, Illinois, where the husband was 30 years of age or less, were interviewed approximately every six months since the fall of 1968. Using the concept of a family financial officer (the individual carried the main responsibility for family finances) the family was found to be not homogeneous in its financial and purchase behaviour. Thus, if the husband is the family financial officer, the couple is more likely to save a higher proportion of income in variable dollar forms, and to purchase automobiles less frequently. The percent of couples purchasing selected items over four waves varied from 18% to 31% when the husband was the officer, and 28%-25% when the wife was financial officer, and 18%-33% when both were the financial officer.

Gelfand, L and V.H. Kirpalani (1979), "Psychological Variables Related to Automobile Ownership and Use," Role of the Automobile Study, Working Paper No. 5, Strategic Planning Group, Transport Canada, January

This report is based on a literature review of about 70 articles and interviews with advertising and marketing consultants. The psychological variables dealt with are mainly attitudes, although perceptions, values, needs and wants are also included. The finding from the literature review is that for the total population, some widely studied psychological variables are less important in auto use and ownership than non-psychological variables such as economic and demographic ones (eg. whether one has a car, whether transportation is available). Psychological variables (perceived travel time/reliability; perceived cost; perceived comfort) do have an association with transport mode selection for certain homogeneous segments of the population.

Gieselman, Robert D. (1969), "Automobile Brand Loyalty," Unpublished doctoral dissertation, The University of Illinois.

A quota sample of 348 new automobile buyers provided data to identify patterns of socioeconomic and shopping-behaviour functional relationships that would discriminate between loyal and non-loyal buyers, using multiple discriminant analysis. Results showed that of the nine independant variables analysed, only three had predictive efficacy: high education is predictive of disloyalty to brand; high income and pre-decision for brand are associated with loyalty. Multiple discriminant analysis proved to be a suitable technique for predicting group membership.

Givens, Jack (1980), "Automobile Industry, Heal Thyself," Advertising Age, September 29, S-32, -33

The author, Director of Sales Operations at Chrysler, discusses current domestic auto industry problems and suggests Detroit has been a seller of Detroit's cars and Japan the marketer of consumer needs. The U.S. national import share rise of 5% in 1963 to 28% in April, 1980 has been preceded by rises in Marin County, California, where import share is now 65%. Japanese cars offer operating owners sprightly performance, maneuverability as well as high base level of trim and equipment, fit and finish, functional appeal, ambiance, and practicality which Americans of today want, even if they must pay more. Research trends indicate 1) Import appeal has changed from snob/cult/novelty to source of individual expression and primary success. 2) Purchase intentions in under 35 age group is 40% for imports. 3) Import buying is "black hole" for buyers. 4) Import loyalty is higher than domestic loyalty. Government protection, assistance, and encouragement of Japanese auto industry is also discussed.

Golomb, D. Henry, Michael M. Luckey, James H. Saalberg, Barbara C. Richardson, and Kent B. Joscelyn (1978) An Analysis of the Wharton EFA Automobile Demand Model, UMI Research Press.

This research report analyzes the 1977 version of the Wharton Econometric Forecasting Associates Automobile Demand Model, and Econometric Model of Long-term Automobile Demand. In the model, automobile demand is represented by stock-adjustment process. The model is designed to forecast the size and composition of U.S. automobile demand and stock and other variables over the long-term, given projected vehicle characteristics and general economic and demographic conditions. Other significant outputs that may be derived with additonal assumptions include forecasts of fuel consumption, industry employment, and tax revenues flowing directly from sales and vehicle operation. The model contains about 400 equations and over 600 variables. It was concluded that the model followed the trends of such variables as: new car sales, automobile travel demand, and scrapage. The model did not follow the trends of: new car sales by type, and stock of cars by type and age.

Green, Robert T., Isabella C. M. Cunningham, (1975), "Feminine Role Perception and Family Purchasing Decisions," Journal of Marketing Research, 12 (August), 325-332.

A sample of 257 randomly selected married women from Houston, Texas completed a self-administered questionnaire regarding whether each of ten decisions regarding products and services were usually made by the wife, the husband, or both the husband and wife. An attitudinal instrument measured the extent of agreement with statements concerning aspects of the woman's role in society and permitted a division into three groups of conservative, moderate, and liberal. The number of husband usually, husband and wife, wife usually decisions were summed for each product and service and the mean scores compared. The products which provided the greatest contribution to the total differences between the groups were major appliances, automobiles, and vacations. In each of these areas, husbands with liberal wives were reported to make fewer decisions than husbands of conservative and moderate wives. This tendency was most pronounced for automobiles, for which conservatives indicated an average of 3.31 husband decisions, moderates 2.70 husband decisions, and liberals 1.94 husband decisions. Automobiles were also characterized by significantly more joint and wife decisions among liberals. The decisions were concerned with which make, which model, what colour, when to buy, where to buy, and how much to spend.

Grubb, Edward L. and Gregg Hupp (1968), "Perception of Self, Generalized Stereotypes, and Brand Selection," Journal of Marketing Research, 5 (February), 58-63.

Thirty-six of 75 student owners of Pontiac GTOs and 45 of 83 student owners of Volkswagens at the University of Nebraska in spring, 1966, responded to 8 items of a "Volkswagen" scale and 8 items of a "Pontiac GTO" scale with regards to self-concept, perception of the self-concepts of Volkswagen owners, and perception of the self-concepts of Pontiac GTO owners. Comparisons were made among the 6 sets of scores both at a scale level as well as on an individual item level. It was found that there were significant differences in the self-concepts of the two ownership groups, that there were significant differences in the stereotypes of the owners of the two different brands, that there was no difference between the self-image of Volkswagen owners and the stereotype of Volkswagen owners held by the Volkswagen owners, and that there was a significant difference between the self-concept and the stereotype of the brand not owned.

Gutman, Jonathan and Burton H. Marcus (1974), "The Effect of Adaption Level and Expectation on Satisfaction: Exploring the Howard and Sheth Model of Buyer Behaviour," in 1973 Combined Proceedings, Thomas V. Greer, ed. Chicago: American Marketing Association, 223-225.

A sample (N=114) of unknown origin are interviewed through a personal interview. Respondents were asked to assess the overall quality on sixteen specific characteristics compared to when the car was new. It was found that overall quality rating fell with age of the car and that overall quality rating was most highly correlated with handling, workmanship, and durability.

Hare, Ian (1977), "Cognitive Dissonance and the New Car Buyer: A British Study," Quarterly Review of Marketing, (Spring), 1-3, 7.

Personal Interviews were conducted with 25 new car buyers from West Sussex in July, 1975. Each respondent was shown 6 recent car advertisements, including one for the car just purchased. The number of advertisements noted and read both before and after the purchase were also obtained. Also obtained was the extent to which the new car buyers read the brochure as well as the number of faults complained of, or were already complained about. A control group of 25 motorists were also interviewed and presented with advertisements for their car and comparable cars. The results indicated that significantly more new car buyers noticed advertisements for their own car than for both considered and other cars after purchase. In contrast, there was no difference between those noticing the advertisement for their own cars and those noticing the advertisements for other cars in the control sample. There was no evidence that new car buyers actually tried to avoid the dissonant information in terms of reduced number of notices of advertisements for considered cars. Other results indicated that the majority of those people who suffered from dissonance seek out one source of information after purchase. The number of perceived faults among those who read the advertisement for their own car, among those who noticed the advertisement and among those who did not notice the advertisement were 2.80, 2.66 and 1.45 respectively. In other words, those who most actively seek out constant information seem to suffer from a significantly higher average number of perceived faults than do those who do not attempt to seek out consonant information. Finally, the average number of other cars considered by those who noticed, read, and did not notice the advertisement for their own car were 1.66, 1.60, and 0.92 respectively.

Henry, Walter A. (1976), "Cultural Values Do Correlate With Consumer Behaviour," Journal of Marketing Research, 13 (May), 121-127.

A total of 498 usable family responses were obtained from a self-administered questionnaire mailed to 1605 families randomly selected from the Los Angeles County registrar of voters precinct list. The number of automobiles in the categories of full size, intermediate, compact, subcompact and sports owned or operated by a nuclear family unit were related by multiple classification analysis (MCA) to the four basic value dimensions developed by Kluckhohn and Strodtbeck (man's relation to nature,time dimension, personal activity, and man's relation to others) as well as the number of drivers, total number of cars owned or operated and standard demographic variables. The number of full size cars was related to age, income and number of drivers; intermediate to income and number of cars in family; compact to number of drivers and man's relation to others; subcompact to family size and man's relation to others.

Hickman, Ernest E. (1980), "Technology Rolls into Gear," Advertising Age, September 29, S-2, S-46

The problem of translating technological improvements into benefits consumer can perceive is discussed.

Hill, Daniel H. and Martha S. Hill (1979), "Consumer Attitudes and Perceptions and Automobile Fuel Economy Standards," Economic Outlook USA, 6 (Spring), 39-42.

This study describes the responses to Fall 1974 and Spring 1977 Consumer questioning by University of Michigan Survey Research Center. Evidence was found of a minimal impact of conservation consciousness on consumers' transportation behaviour. People who report reductions in driving attribute these reductions to fuel-price-related issues and not to the need to conserve energy. Their consciousness of limited resources had no effect on their reported driving behaviour. Price perceptions, particularly gasoline price perceptions, seem to play a much more important role in both their reported driving behaviour and their stance on downsizing as a means by which manufacturers can meet the fuel economy standards. It was concluded that it seems unlikely that consumers will accept the type of vehicle being offered by manufacturers in order to meet the fuel economy standards unless they believe that gasoline prices are going to rise radically.

Hogarty, Thomas F. (1975), "Price-Quality Relations for Automobiles: A New Approach," Applied Economics, 7 (March), 41-51.

A hedonic model (list price regressed on automobile characteristics) was estimated for each of the 15 years between 1957 and 1971 using observations for 992 (American produced) models. The variables exhibiting explanatory power over the entire 15-year period were measures of comfort, performance, and the dummy variable for power steering (brakes), and the "index of luxury." These variables accounted for 95% or more percent of the variation in list prices in all but one year (1964).

Isherwood, B.C. and J.F. Pickering (1975), "Factors Influencing Individual Purchases of Motor Cars in Great Britain," Oxford Bulletin Economics and Statistics,37 (August), 227-249.

A 1971 sample of some 300 UK households was used to obtain data on socio-economic position, ownership of consumer durables, consumer confidence in economic situations, and purchasing expectations. A followup was made in 1972 with division of respondents into new car buyers, used car buyers, buyers of other durables, and nonbuyers. The results indicated that new car buyers had the highest socio-economic status, greater confidence, higher new car purchase expectations, and perceptions of the characteristics of cars that were most favourable to the purchase decision (right price, ability to finance purchases out of present income, and membership of a car-owner social group).

Ito,Rikuma (1967), "Differential Attitudes of New Car Buyers," Journal of Advertising Research, 7 (1), 38-42.

From a nation-wide probability sample of car owners, 211 Ford owners, and 366 Chevrolet owners who expressed the intention of buying a 1964 Ford or Chevrolet within 12 months from the time of interview. The ratings given to 1964 Ford and Chevrolet on good looks, comprehensive warranty, holds road well, manufacturer has good reputation, corporates many new features, good car for everyday drives, trade-in value appeal to youthful people, and pick up and get away were found to statistically classify potential loyal buyers and switchers to a competitive make.

Jung, Allen F. (1961), "Impact of The Compact Cars on New-Car Prices," Journal of Business, 34 (April), 167-82.

The purpose of this study was to: (1) measure the effect of the entry of these new compact cars on other car prices and (2) investigate the behaviour of car prices over the 1959-60 model years on the basis of a survey of all new car dealers within the Chicago city limits. It was found that the effects of the new compact cars on the prices of the older compacts, the small foreign cars, and the two largest selling "low-priced" makes, were not large. The new compacts did not aid the sales of the imports but it is not clear what effect they did have. The best time to buy a new car is in January and February when lower prices prevail. The customer interested in a low price should visit several dealers. There seems to be some evidence that large volume dealers do offer some price advantages to the consumer, but, when the prices of dealers were ranked by sales, dealers which had the largest sales did not always quote the lowest prices.

Kennedy, John R. and Peter C. Thirkell (1981),"The Effect of Automobile Product Experience on Attribute Disconfirmation Importance," Proceedings of the Fifth Conference on Consumer Satisfaction,Dissatisfaction and Complaining Behaviour.

Mail questionnaires were sent to a random sample of 3000 Canadian consumers who lived in four provinces, and who had purchased one of four specific car models (compact, intermediate, and fullsize and sports) from a single North American automobile manufacturer. Purchases were made during previous 20 months. The response rate was approximately 33% resulting in 985 completions. Respondents were asked to assess the importance of 20 attributes both when the car was bought and now as follows:

Performance Benefits
Pickup, Acceleration
Ride and Handling
Fuel Economy
Interior Comfort
Seatbelt Operation
Noise Level of Operation
Quality of Materials
Quality of Workmanship

Social Costs and Benefits
Popularity With Family
Popularity With Friends
Support Costs and Efforts
Maintenance Costs
Repair Costs Not Covered by Warranty
Number of Warranty Repair Visits
Number of Non-warranty Repair Visits
Days Without Car Because of Repairs

System Response
Warranty Repairs Correct First Time
Service People Attitude
Service People Understanding Problem
Service-Repairs Done When Promised
Needed Parts Available.

Expectations about the new car at time of purchase on an excellent to poor scale and disconfirmation of purchase on a much worse to much better scale for each of the items was also obtained.

The results indicated that attribute importance on average became slightly less important. In addition, average disconfirmation scores across items within each of the four expectation subsets described were found to correlate significantly with overall satisfaction. These downward shifts were correlated with increases in expectation disconfirmation. The second result was that levels of expectation disconfirmation were inversely related to the time since purchase, although the strength and exact form of the relationship varied depending on the types of attributes being considered.

King, Jenny L. (1980), "Almighty Dollar--Top Priority," Automotive News, November 3, E16, E18.

The cost of new autos has replaced the EPA rating as the most looked-at items in new-car showroom according to a Automotive News survey of dealers. People first look at the price, then EPA, then quality. Customers are doing more comparative shopping than before, there is less "brand loyalty" and there is plenty of uncertainity.

Lastovicka, John L. and David M. Gardner (1978), "Low Involvement Versus High Involvement Cognitive Structures," in Advances In Consumer Research, Vol. 5, H. Keith Hunt, ed., Ann Arbor: Association for Consumer Research, 87-92.

In this study, the authors determine the number of car makes that respondants accepted, rejected, and were neutral to. On this basis, respondents were classified into low, medium and high involvement individuals. The cognitive structure for the low involvement group was simpler-a simple set of decision rules was used to evaluate brands.

Lastovicka, John L. and David M. Gardner (1979), "Components Of Involvement," in Attitude Research Plays for High Stakes, John C. Maloney and Bernard Silverman, eds., Chicago: American Marketing Association, 53-73.

Respondents were asked to agree or disagree with various statements about fourteen product categories. The statements were indicators of involvement with the product; for example, "I use this product to help express the 'I' and 'me' within myself." A factor analysis of the responses resulted in three groups of products: low involvement, high involvement and special interest products. Products with high factor loadings on the high involvement factor were automobile, blue jeans, high-fi speakers, and beer. The automobile had the highest factor loading of 0.648.

Lave, Charles A. and Kenneth Train (1979), "A Disaggregate Model of Auto-Type Choice," Transportation Research, 13A, 1-9.

A model for the type of car that households will buy is developed. Household data was generated from a sample of 1976 car buyer in 7 American cities. All makes & models of cars were classified into ten categories and the model used to predict car choice by category. The independent variables used are: cost/income, no. of cars owned, income, operating cost per mile, seating capacity, no. of persons in the household, vehicle miles traveled per month, car weight, age & education of respondent, and performance.

Levedahl, J. William (1980), "The Impact of Permanent and Transitory Income on Household Automobile Expenditure," Journal of Consumer Research, 7 (June), 55-66.

A sample of 708 husband and wife families interviewed in 1968 provided measures of permanent or expected income and transitory or unexpected income. These measures were used to estimate the determinants of household automobile expenditure. These estimates in the corresponding second year observations were then used to predict automobile expenditure for same households in the second year. The results generally supported the hypothesis that relative to its level, the pattern of income receipts determines the timing of automobile purchases, but not the level of expenditure once the purchase is made. The results also suggested that among five permanent income estimators, expected income made a significant improvement in the results, suggesting that direct measurement of anticipated income may help predict automobile expenditure.

Maddox, R. Neil, Kjeel Grønhaug, Richard E. Homans and Frederick E. May. (1977), "Correlates of Information Gathering and Evoked Set Size for New Automobile Purchasers in Norway and the U.S.,"in Advances in Consumer Research Vol. V, H. Keith Hunt, ed., Ann Arbor, Michigan: Association for Consumer Research, 167-170.

Personal interviews were conducted among new car registrants in the fall of 1969 in Bergen, Norway, resulting in 96 completed interviews. Personal Interviews with 387 household heads presiding in the St. Louis metropolitan area resulted in 132 household heads whose most recent purchase was a new car. The resuls indicated that age was negatively correlated with evoked set size, income not correlated, and education positively correlated. It was also found that the use of information in six different ways was negatively correlated with age and positively correlated with education. The educational correlations were stronger in the Norwegian sample. It was also found in the Norwegian study that evoked set size and uses of the various types of information were positively correlated.

Manski, Charles F. and Leonard Sherman (1980), "An Empirical Analysis of Household Choice Among Motor Vehicles," Transportation Research - A, 14A, 349-366.

The data from the Survey Research Center's winter 1976 survey of approximately 1200 households drawn from its rotating consumer panel was used in a multinomial logit model to describe each households choice among vehicle alternatives. The two models were estimated, one explaining vehicle choices in households holding a single vehicle, the other explaining the composition of holdings in a 2-vehicle household. Attributes considered were vehicle seating capacity, luggage capacity, weight, acceleration time, noise level, scrappage probability, price, operating cost, and search-transaction cost associated with entering the vehicle market. Household size, education, income, number of workers, and residential location conditioned the utility function. A major result was that each household had an optimal seating capacity which varied directly with household size. Most aspects of vehicle performance had little effect on choices. Vehicle price, operating cost and transactions cost were all important determinants of vehicle utility but the influence of price and operating costs varied considerably among socioeconomic and demographic groupings.

Martilla, John A. and John C. James (1977), "Importance-Performance Analysis," Journal of Marketing, 41 (January), 77-79.

A total of 284 useable returns representing a 45% response rate were received as a result of a mail survey among purchasers of a new car from an unidentified auto dealer. Respondents were asked to rate the dealer on how well he performed on each of 14 attributes which were felt to affect service department patronage as well as the importance of the attribute. The attribute descriptions and mean importance ratings were as follows:

Attribute Description	Mean Importance Rating
Job done right the first time	3.83
Fast action on complaints	3.63
Prompt warranty work	3.60
Able to do any job needed	3.56
Service available when needed	3.41
Courteous and friendly service	3.41
Car ready when promised	3.38
Perform only necessary work	3.37
Low prices on service	3.29
Cleanup after service work	3.27
Convenient to home	2.52
Convenient to work	2.43
Courtesy buses and rental cars	2.37
Send out maintenance notices	2.05

Martineau, Pierre (1957), "An Automobile For Every Personality," Motivation in Advertising, New York: McGraw-Hill Book Company, Inc., 66-80.

This chapter discusses the results of an automobile study conducted by Social Research, Inc. although no details of the study methodology itself are given. The main thesis is that the automobile has a number of other meanings besides simple transportation, that automobile brands differ in their meanings, and that the consumer selects the automobile brand as an extension or a reflection of personality. Specifically, Martineau suggests the automobile has five types of meanings:

1. Its practical transportation function,

2. Its investment meanings where cost of upkeep and gas mileage are factors used to rationalize choice but not in themselves inherently a powerful motivating factor,

3. Social meanings which include portable, demonstrable status meanings,

4. Personal mastery and control as related to self-assertiveness and esteem needs,

5. Self-expression, where the automobile is purchased because of what we are or what we want to be. This self-expression was suggested to range over a continuum marked by the types of 1) conservative, 2) middle-of-the-road/bandwagaon/fashionable, and 3) attention-getter/innovator/style setter. Major brands such as Cadillac, Buick and Ford are discussed with respect to their brand meanings.

Apparent changes in tastes were suggested to be a result of changes in the degree of available leisure to prosperity within society. Implications for advertising and copy are provided.

May, Frederick E. (1969), "Adaptive Behavior in Automobile Brand Choices," Journal of Marketing Research, 6(Feb), 62-5.

Personal interviews with 387 household heads residing in the St. Louis metropolitan area resulted in 139 household heads whose most recent purchase was a new car and who had owned at least one car before the most recent purchase. Analysis of the data revealed the following conclusions:

1. There is a direct relationship between prepurchase of a currently owned make and previous ownership of that make. Both recency and number of previous purchases of the current make are related to its repurchase. The choice of first make considered in the purchase process depends upon previous ownership experience of the currently owned make: previous experience with current make increases the probability it will be the first considered in the search process.

2. The search for additional alternatives depends upon which automobile make is first considered in the purchase process. If the make first considered is currently owned, the probability of additional search is significantly lower than expected. If the make first considered is not currently owned, the probability of search is significantly higher.

3. Among searchers who consider at least one alternative to the make first considered, repurchasers switching from a currently owned make depends upon a number of visible alternatives. The probability of currently owned make being repurchased falls as the number of alternatives considered increases.

4. The rejection of the repurchase of the currently owned automobile was often due to environmental or socio-economic changes such as retirement, or divorce which lead to change in income or transportation needs.

May, Frederick E. (1971), "The Effect of Social Class on Brand Loyalty," California Management Review, 14 (Fall) 81-7

Retrospective recall of automobile purchases was obtained using personal interviews among 387 heads of households in the St. Louis metropolitan area, further qualified by being those whose most recent purchase was a new car and who had owned at least one car previously. Respondents were selected using a cluster, area probability sampling procedure in the spring of 1966 and resulting in a 77% response rate. The results indicated that lower occupational prestige class buyers had consistently higher repurchase probabilities than the average buyer, and that middle occupational prestige class buyers had consistently lower repurchase probabilities than the average buyer, regardless of current income. Although overall there was no association between repeat purchase probabilities in current family income or the highest educational level obtained by the buyer, it was found that college educated buyers and those with higher incomes in the middle class had the lowest repurchase probabilities.

McCrohan, Kevin F. (1980), "An Application of the Social Character Construct in Market Segmentation," Journal of the Market Research Society, 22 (October), 263-267.

A questionnaire was mailed to a national probability sample of 2,966 individuals who registered a new automobile in the continent of the United States in October 1976. A response rate of 26 percent resulted in the use of 603 responses. The results showed a relationship between inner-other-directedness (Riesman), as measured by the I-O Social Preference Scale, and prestige category of automobile purchased. As one moves from the high-and-medium-prestige automobile categories to the very-low-prestige category, consumers became significantly more inner directed.

McHale, Henry P. (1971), "Correlates of Brand Loyalty in the Automobile Industry," Unpublished doctoral dissertation, University of Illinois.

This dissertation investigated the relationship between 39 factors and the degree of brand loyalty for automobiles. The survey consisted of a national probability sample of 18,000 new car buyers who purchased new cars during October 1, 1968.

Several relationships appeared to be consistant:

(1) Older buyers are more likely to be brand loyal than younger buyers.
(2) Buyers whose previous car is newer are more likely to be brand loyal than those whose previous car is older.
(3) Buyers who purchased their previous car new are more likely to be brand loyal than those purchasing their previous car used.
(4) Buyers who do not consider makes other than the one purchased are more likely to be brand loyal.

Thus this study indicates that the amount of past experience and the satisfaction with that experience is quite influential on whether an automobile buyer is likely to remain brand loyal.

McNeil, John (1974), "Federal Programs to Measure Consumer Expectations, 1946-1973: A Post-mortem," Journal of Consumer Research, 1 (December), 1-10.

This article describes the development of the Bureau of Census Survey of Consumer buying expectations begun in 1959 and discontinued in 1973. This article includes selected regression results where the number of new cars reported purchased per household and number of dealer sales of new cars divided by total households are regressed on consumer expectations, personal disposable income, dealer sales of new cars divided by total households, and index of consumer sentiment.

McNeil, Kenneth and Miller, Richard E. (1980), "The Profitability of Consumer Protection: Warranty Policy in the Auto Industry," Administrative Science Quarterly, 25 (September), 407-427.

Telephone interviews were completed with an average of 50 buyers from each of 33 Wisconsin area dealerships (1537 respondents) two months after car's registration (Fall, 1976) and again after a year's experience (Spring, 1977). Owners/managers of 29 of the 33 dealerships were also interviewed as were managers in service divisions of each of the 4 Detroit auto manufacturers, observers in national trade associations, and observers in government agencies regulating warranty protection. The authors suggest that the present level of poor warranty performance apparently reflects a strategic choice, conscious or unconscious, to maintain continuing relationships with customers through a reliance on the proprietary control over the market, rather than through investments in good will assets. Three possible explanations for this choice are explored. The first explanation, that the development of good will assets is not profitable because there is no effective demand for better warranty protection, is examined and rejected. The second explanation, that the development of good will assets is not profitable because the costs of adequate warranty protection would be too great, is also examined and rejected. The third explanation, that decision making is biased against the development of good will assets because of exclusive reliance on short-term accounting systems, is supported.

In total, this paper is relevant for understanding industry practice, analyzing consumer dissatisfaction, and providing suggestions for consumer protection programs.

Moore, William L. and William L. James (1975), "A Study of the Amount of Halo in the Perceptions of Automobiles," in Advances in Consumer Research Vol. 5, H. Keith Hunt, ed., Ann Arbor Association for Consumer Research, 481-484.

Judgements on perceptions and preferences for 10 automobiles were collected from 40 junior and senior marketing students. Each student rated each automobile on 10 attributes using a 10-point Likert scale. Similarity judgements were also collected on the 10-point scale. It was found that there was only a small amount of halo in attribute judgements of automobiles. The amount of halo found in perceptual spaces formed through either attribute or similarity judgement was found to be about equal and low in both cases.

Morris, D. (1978), "Household Production Theory, The Lancaster Hypothesis and the Price-Quality Relationship," Bulletin of Economic Research, 30, 14-24.

This paper explores the Lancaster model of consumer behaviour for its implications for the hedonic technique and the relationship between the prices of market goods and the levels of various "qualities" which they embody. It was shown that such a model implies that the price-quality relationship should be estimated in linear form with performance variables as explanatory variables using cross-sectional data. A price-quality relationship was fitted to data for UK passenger cars. The explanatory power of the regression was lower than that of other regressions reported in the literature and it was suggested that strict adherence to the Lancaster framework did not lead to any useful practical insights into the problem of relating prices to quality. The data were based upon 124 types of automobiles available in the spring of 1974.

Murphy, Joseph R. (1963), "Questionable Correlates For Automobile Shopping Behavior," Journal of Marketing, 27 (October), 71-2.

This article critiques the Evans' (1962) article on the basis of the statistical analysis of the Edwards Personal Preference Schedule scores, on the basis of interpretation of correlation coefficients without reference to the reliability of the measuring instrument, and on the basis of the use of rank differences in evaluating the relationship between a series of ranks where the distance between the successive ranks is not equal.

Murtaugh, Michael and Hugh Gladwin (1980), "A Hierarchical Decision-Process Model for Forecasting Automobile Type-Choice," Transportation Research-A, 14A, 337-348.

This article presents a decision-process model of car choice based on in-depth interviews with new car buyers in Orange County, California during the summer of 1978. The methodology was borrowed from anthropological decision-making studies and focussed on the transportation requirements of the car buyer rather than on the characteristics of the automobile. Interior car size was found to be the most constrained decision criterion for this group of buyers. The model accounted for 42 of the 45 cases of the sample. Several flow-chart models are provided.

Nerlove, Marc, (1957), "A Note on Long-run Automobile Demand," Journal of Marketing, 22, (July), 57-64.

This note begins to clarify certain difficulties in Brems (1956) formulation of the long-run demand for automobiles. In the process of clarification, an alternative model is developed and some illustrative statistical results are presented.

Newman, Joseph W. and Richard Staelin (1972), "Prepurchase Information seeking for New Cars and Major Household Appliances," Journal of Marketing Research, 9 (August), 249-57.

A probability of sample of 1300 US households resulted in data from 653 households in 1968 where 217 had bought new cars and 435 other appliances. An information-seeking score was created and related to other variables using both AID and MCA analyses. Among the results, it was found that only 34% of those who bought cars visited only one retail outlet and the number of brands considered at the outset of the decision process accounts for the largest variance in the information seeking score. The results were also interpreted as indicating that purchase and use of a product results in learning which later influences buying behaviour.

Nordstrom, Richard D. (1974), "Analysis of Store and Brand Loyalty Behaviour: An Ex Post Facto Experiment Involving New Car Purchases," Unpublished doctoral dissertation, University of Arkansas.

This research was based on and included: (1) A natural experiment based on a situation in which a new car agency changed owners; (2) Long itudinal analysis of the effects of this change in the buying environment on loyalty patterns of established customers; (3) Simultaneous analysis of brand and store loyalty surrounding new car buying behaviour; and (4) an evaluation of loyalty as an attitude with separate measures. Through simultaneous analysis of both brand and store loyalties, it was determined that a change in the buying environment did have an effect on established patterns of loyalty. High brand loyal respondents in the experimental group reacted to a change in the buying environment by switching brands at a much higher rate than did respondents in the control group.

Nordstrom, Richard D. and John E. Swan (1976), "Does a Change in Customer Loyalty Occur when a New Car Agency is Sold?" Journal of Marketing Research, 13 (May), 173-177.

Interviews were conducted among new car purchasers of a Ford dealership in a Kansas Community which was sold and a Chevrolet dealership which was not sold. Brand and dealer loyalty patterns before and after the date of the sale of the Ford agency were analyzed. The results indicated that only 47% of the previously 100% brand loyal Ford respondents remained loyal after the agency was sold, compared to the 71% who remained loyal to the Chevrolet agency. The results were interpreted as indicating changes in structure variables can effect consumer brand and store loyalty patterns.

Pekelman,Dov and Subrata K. Sen (1974), "Mathematical Programming Models for the Determination of Attribute Weights," Management Science, 20 (April), 1217-1229.

Several versions of the mathematical programming model which determine attribute weights for each consumer were empirically evaluated using data on dry cereals and automobiles. The model was found to be a good predictor of consumer preferences, particularly for dry cereals. Managerial implications for product positioning, new product design, and market segmentation were discussed. This study was based on the responses of 115 individuals included in the Consumer mail Panel of Market Facts Inc.

Peter, J. Paul and Michael J. Ryan (1976), "An Investigation of Perceived Risk at the Brand Level," Journal of Marketing Research, 13 (May), 184-8.

A total of 210 useful questionnaires were obtained among a convenience samples of juniors and seniors enrolled in the business administration curriculum at a major university. Perceived risk was conceptualized in terms of expected negative utilities associated with automobile brand preferences. The empirical evidence supported the notion that importance of loss is more useful as a segmentation variable than as a component in a multiplicative model. In other words, consumers who are highly risk adverse view products and brands more in terms of potential losses than do those who are less risk adverse.

Peter, J. Paul and Lawrence X. Tarpey, Sr. (1975), "A Comparative Analysis of Three Consumer Decision Strategies," Journal of Consumer Research, 2 (June), 29-37.

Data were collected from juniors and seniors enrolled in business administration at the University of Kentucky resulting in 210 useful questionnaires. Of this total, 108 dealt with compact brands and 102 dealt with intermediate brands. The results indicated that a net perceived return model could explain more variance in automobile brands preference than could a minimization of perceived risk or maximization of perceived return models. The results also indicated that consumers consider expectations of both positive and negative utility in their automobile brand preference decisions. Other results indicated that the two major types of consumer expectations concerning automobile brands are: expected performance of the brand, and expected congruence of the brand with the buyer self-image and reference group image.

Peters, William H. (1968), "Variation in Consumer Buyer Behaviour: An Analytical Study of Automobile Purchases," Unpublished doctoral dissertation, The University of Michigan.

This study is an analytical exploration of the relationship of certain economic, demographic and geographic variables to ownership of various classes of automobiles. The power of these variables to segment the new car market of the mid-1950's and mid-1960's is explored. Also the market segmentation ability of family-unit income as compared to the median income of the head's occupational class is explored. Data used in this study was collected from the 1957, 1966, and 1967 Survey of Consumer Finances by the Economic Behaviour Program of the Survey Research Center at the University of Michigan. Five major conclusions were drawn from the study;
(1) The automobile markets in both time periods did not lend themselves very well to market segmentation.
(2) The predictive power of the independant variables was low.
(3) Given the low predictive and market-segmentation power of these variables, they still provided much information concerning the "true" relationships between the explanatory and dependant variables.
(4) Incomes of families in relation to the median family income for families in thc head's same occupational class does seem to play a role in indicating which are the most active areas of ownership of the various car classes.
(5) Multiple classification analysis appears to be a valuable tool for marketing research.

Peters, William H. (1970), "Using MCA to Segment New Car Markets," Journal of Marketing Research, 7 (August), 360-363.

The data used in this study were collected by personal interview for the 1966 and 1967 Survey of Consumer Finances by the Survey Research Center at the University of Michigan. A "multiple classification analysis" shows that families with incomes in the lower five decile groups were more likely to own compact and intermediate-sized new cars. For foreign economy cars, young buyers have the greater frequency of ownership. Having a bachelor's degree increased ownership of these cars as well. For compacts, one-car families have lower frequency of ownership. It also appeared that many foreign economy cars were also bought as second cars. An important variable was "son or daughter usually drives this car" which show that young drivers want compacts and intermediates and not the larger mass-market, popular cars of the mid-1960s. When the son or daughter usually drives, the frequency of ownership of medium-size cars is reduced.

Ratchford, Brian T. and Manoj K. Agarwal, (1979), " The Value of Information on Automobile Characteristics," in 1979 Educators' Conference Proceedings, Neil Beckwith, Michael Houston, Robert Mittelstaedt, Kent B. Monroe, and Scott Ward, eds., Chicago: American Marketing Association, 200-204.

This paper developed a monetary measure of the utility gains which consumers could potentially obtain from seeking information about alternative brands. Applying this measure to individual preference functions for automobiles estimated on a sample of 187 recent car buyers, estimates of the value of information on various numbers of automobile brands were developed for each respondent. While there was considerable differences in the estimated value of information between respondents the value of information about automobiles was generally found to be quite large.

Reynolds, Fred D., Melvin R. Crask, and William D. Wells (1977), "The Modern Feminine Life Style," Journal of Marketing, (July), 38-45.

A spring 1975 mail questionnaire was administered among 2000 female members of the Market Facts Consumer Male Panel. A question regarding the female role in marriage categorized 45 percent of the respondents into a traditional arrangement, 54 percent into a modern or sharing choice, and 1 percent into a third choice. A comparison of the two major groups revealed that women in a modern feminine orientation group agreed more with the statement, "I like sports cars" to a greater extent than did traditionalists. Also, egalitarian women were interpreted as more pragmatic as evidenced by their inclination towards sub-compact cars.

Richardson, Lee and David N. Fogg (1970), "Service Patronage Patterns and New Product Warranties: A Pilot Study of Automobiles," Southern Journal of Business, 216 (July), 213-217.

A mail questionnaire to car owners in Baton Rouge, Louisiana, whose cars had been purchased new and whose warranties should have been in effect resulted in 218 usable returns in 1968. The results revealed that owners of automobiles that are covered under warranty patronize dealers for routine servicing and periodic repair work within the specified time of warranty protection; warranty expiration resulted in a major shift of car owners from dealers for both service and repair work; and, different consumer images persisted for dealers and independents. Both respondents felt that independents were superior, on speed of service, personal attention, quality of service and prices.

Romero, Louis, J., (1972), "Automobile Warranties in North America with Special Reference to the Ontario situation," an unpublished Master of Laws Thesis, Osgoode Hall Law School, York University, Toronto, September.

This thesis analyses different surveys conducted in the United States in relation to consumer dissatisfaction with new car warranties and service rendered under them. An empirical study of 323 Ontario new car owners was conducted in April, 1971; 51.31% of respondants had some repairs under warranty. Only 44.31% of those were successful in having defects fixed. 59.18% of respondants who had a defect had to return more than once to get car repaired. 15.74% of respondants weren't satisfied with the performance of cars. Dealers are not fulfilling their franchise agreements in regard to pre-delivery inspection of new cars.

There is a greater divergence between the rates dealers receive for performing warranty repairs and the rates they charge for retail work. Labour rates under warranty negotiated between each dealer and the manufacturer. Warranty administration procedures encourage dealers to refuse or delay the performance of warranty repairs. Manufacturers reject over 20% of warranty claims. No significant difference between the percentage of dissatisfied customers in Canada and the United States.

Roos, C.F. and Victor Von Szeliski (1939), The Dynamics of Automobile Demand, General Motors Corporation.

Demand elasticities are:

Income	1.5 to 2.5
Retail Price	-1.5

Ross, Ivan (1971), "Self-Concept and Brand Preference" Journal of Business, 44, 38-50.

In this study, 200 female undergraduate and graduate students are measured on ideal self-concept, actual self-concept, rank-order preferences of six magazines, rank-order preferences of six automobile brands (Cadillac, Lincoln, Imperial, Ford Falcon, Chevrolet Covair, and Dodge Dart), and are asked to rate the six magazines and six automobiles on the self-concept scales. There were a total of fifteen bipolar, adjectival, 7-point scales. It was found that the subjects preferred brands similar to the self-concepts and that brand preference fell as the discrepancy between the self-rating and the magazine rating grew. It was also found that actual self-concept was more similar to preference than was ideal self-concept.

Seaton, Bruce and Ronald H. Vogel (1980), "Price Structure as a Marketing Variable: An Experimental Investigation," Journal of Business Research, 8 (September), 315-327.

A pair of 4-factor experimental designs were developed to investigate the preferences of students for automobile price structures. The results indicated that, for a majority of subjects, the structural variables of downpayment, interest rate, and monthly payment were more important than price level in determining overall preferences.

Seringhaus, Rolf (1980), "The Evoked Set Concept and Automobile Market Segmentation: An Empirical Investigation of New Car Buyers' Perceived Market Segment," in Towards Excellence In the 80's, Proceedings of the Annual Conference of the Administrative Science Association of Canada - Marketing Division, Vernon J. Jones, ed., 342-350.

A mail questionnaire administered among Toronto buyers of 1979 VW Rabbit and GM Chevette subcompacts, who had purchased a new car during May to September, 1979, provided 60 reusable returns, a 35% response rate. The results indicated that industry-defined product group market segments tended to differ from those perceived by new car buyers. There was no clear evidence, however, that evoked sets of buyers from the same product group differed.

Settle, Robert B and L. Bruce Gibby (1972), "The Measurement of Attributed Image," California Management Review, 14 (Summer), 70-74.

A group of 66 students at the University of California at Los Angeles were randomly assigned to three test groups with members of each group evaluating either a Ford/Maverick, Volkswagen/Sedan or Toyota/Corolla on 22 semantic differential scales. The results indicated that profiles of the Ford owner and the Toyota owner were significantly different, but that those of the Ford owner and the Volkswagen owner were not. Thus, the data indicated that origin, in and of itself, was not the determining factor in shaping owner profiles. The results also indicated that recency of design was not alone sufficient to produce significantly different profiles. The results did indicate that manufacturer reputation and tenure in the market will significantly affect the profiles of owners: the Toyota, the most recent entry, produced a significantly different profile.

Shapiro, Leo J. and Dwight Bohmbach (1979) "From Romance Comes a Gothic Tale," Advertising Age, Sept. 17, S-14, S-16

This article reports on the changing values of the consumer towards the automobile, problems with the North American auto industry and the plans for the future of the auto makers. The car is no longer a love affair for the average American. Forty-nine percent of potential car buyers said they will buy a compact or subcompact and various factors are discussed to explain this phenomenon. The results of a "massive national consumer survey" are discussed including number of cars in household, buying intentions, knowledge of X-cars, concept of lifetime car, and concept of generic car. If Sears offered a car, 4% of those surveyed said they would definitely buy from Sears and another 14% showed interest. Price was a less important consideration than service, quality and dependability taken together. Reasons why people would buy from Sears than an auto dealer: 25% named service availability, 19% price, 18% warranty/guarantee, 6% better financing and 4% quality.

Shuptrine, F.K. and G. Samuelson (1976), "Dimensions of Marital Roles in Consumer Decision Making: Revisited," Journal of Marketing Research, 13 (February), 87-91.

This study attempted to replicate Davis (1970) using data gathered from the University of South Carolina, College of Businesses, Consumer Panel. A total of 350 questionnaires were accepted in which couples answered 6 questions pertaining to the timing of the automobile purchase, the amount of money spent the make of car, the model, the colour and where the car was purchased. The respondents were asked to answer on a 5-point scale ranging from husband-decided to wife-decided. The results were essentially similar to those of Davis which showed that neither spouse is completely dominant in the purchase decision. Instead, each spouse is dominant in certain aspects of the purchase decision. It was also concluded that the findings indicated each partner recognized his or her role and the roles of his or her partner very clearly. The findings also indicated that the partners dominant for most pre-purchase decision components also tended to make the real decision to purchase.

Sims, Lee (1979), "Automobile Ownership and Usage in Canada - 1976," Role of the Automobile Study, Working Paper No. 16, Strategic Planning Group, Transport Canada, January.

This report presents the results of a nation-wide survey of annual automobile travel in Canada in 1976. A total of 717 household interviews were conducted. Results give an average income elasticity of total annual household vehicle mileage of about 1.10 over the entire range and somewhat higher elasticities at the lower income levels.

Arguments that decentralization or dispersed settlement patterns result in less travel are not substantiated by this survey. In view of the relationship between household income and travel, it makes little difference whether there are one or two persons working in the household. Total automobile travel in 1975 is estimated at 86.7 billion vehicle miles.

Sims, Lee (1979) , "Forecasts of Automobile Ownership and Usage," Role of Automobile Study, Working Paper No. 21, Strategic Planning Group, Transport Canada, January.

This report forecasts automobile ownership and travel (automobile stock, vehicle miles travelled, gasoline consumed) for five alternative future scenarios for Canada (No Surprises!; The Energy Conserving Society; California; 1985 - The Turning Point; and Paralysis).

Current legislation calls for new car average fuel economy to increase from its current level of 18·6 mpg to between 31.2 and 33 mpg by 1985. Automobile stock is forecast by an econometric model that uses two independent variables: population and personal consumption expenditure. The 1985 fuel economy standards will not be met by technological innovation alone, the market share of small cars will have to increase substantially. Total vehicle miles travelled increase from 86.7 billion in 1975 to 208 billion in California, 173 billion in No Surprises! and 114 billion in Paralysis. These are annual growth rates of 3.7%, 2.8% and 1% respectively which is disturbingly high when compared to the approximate, predicted 1% growth rate in population and 2% growth rate in automobile stock. Net gasoline consumption remains relatively constant in No Surprises! and Energy Consuming Society but increases by 60% in California, indicates that technological innovations cannot stabilize the demand for gasoline.

Smith, R.P. (1975), Consumer Demand for Cars in the USA, Cambridge: Cambridge University Press.

This study examines the factors that determine the consumer demand for automobiles in the United States. The emphasis of this study is on the construction of realistic models that fit observed market behaviour, and a review of economic literature on the demand for cars. Almost 200 million cars have been purchased since WWII and ¼ of all businesses are automotive. Market shares for the automobile are; GM 50%; Ford 22%; Chrysler 16%; American Motors 3%; and imports 9%. Fortune (July 1974) suggests normal profit per car figures of $300 for subcompacts and $500 for full-sized cars. In general, GM is the largest, most profitable and lowest cost producer, has tended to set the level of new car prices. Variables that affect demand are income and demography, prices, credit availability, quality and consumer attitudes. A 1960 survey by the Office of Business Economics found;

(1) The size of the family income was the major determining factor for both single and multiple ownership of cars.

(2) If income levels were kept constant, residents in farm and rural areas were more likely to own new cars than urban residents.

(3) Ownership declined with age of the head of the family and although better education and ownership seemed related but this may have reflected the high correlation between income and education.

(4) Homeowners had higher rates of ownership than renters, but this may have reflected the concentration of renters in large cities where the use of automobiles is much lower.

The total stock in the post-war period can be adequately predicted on the basis of movements in income, population and trend. The relationship between income and ownership frequency can be described by the cumulative log normal distribution and trend growth and ownership by a cumulative normal distribution. Between 1952 and 1969 roughly 50% of the growth in stock arose from an increase in the number of households, 30% from the trend, and 20% from the increase in income. A short run demand function for car purchases does not exist, for it depends on the consumer's timing of acquisition and replacement, which can be varied in response to the state of confidence or expectations. (HD 9710 U5S55 1975).

Stewart, David and Stuart Cochrane (1981), "UK Car Market: A Cross-section Study 1977-80," Paisley College.

This paper analyzes the marketing behaviour of Western European, Japanese and UK automobile producers in order to account for the increased share of the UK car market held by imports. Explanations for the decline in the sale of UK cars are classified into exogenous factors (eg. economic conditions) and endogenous factors (eg. strike activity in UK plants, the lesser value of British cars). Explanatory variables found to be significant included the number of models available, the number of dealers, advertising expenditures, the number of standard features, and fuel consumption. Reliability and price were found not to be significant.

Suits, Daniel B. (1958), "The Demand For New Automobiles In the United States 1929-1956," Review of Economics and Statistics, 40 (August), 273-80.

This paper presents the results of a study of the demand for passenger automobiles. The demand function, annual retail sales of new passenger vehicles is explained by first differences of (1) real disposable income; (2) the stock of passenger cars on the road, January 1; (3) the average retail price of new passenger automobiles divided by the average number of months' duration of automobile credit contracts (a monthly payment index); (4) a dummy variable used to account for special conditions in the automobile market in years of severe production shortage (1941, 1952). The data are from 1929 to 1956 omitting 1942-45.

The statistical demand schedule fits the observed behaviour of the market very well (coefficient of multiple correlation 0.93). Disposable income is the variable of greatest importance followed by the stock of cars on the road and the real monthly price index.

Demand elasticities:

Variable	Elasticity
Real Disposable Income	4.16
Stock of Cars, Jan. 1	-3.65
Index of Real monthly payment	-.58

Tardiff, Timothy J. (1980),"Vehicle Choice Models: Review of Previous Studies and Directions for Further Research," Transportation Research-A, 14A, 327-335.

The purpose of this paper was to assess the features of existing vehicle choice models and to develop alternate specifications for vehicle choice models based upon the synthesis of previous work. Several vehicle choice models were reviewed and assessed. The paper focuses on vehicle choice models which were based upon hypotheses of individual or household choice behaviour. The review suggested directions for further model development: 1. development of joint vehicle ownership, location choice models. 2. development of improved models of vehicle purchase decisions. 3. future development of vehicle holdings models, 4. exploration of the effects of vehicle-type decisions on vehicle level (number of vehicles) decisions,and 5. development of dynamic models of vehicle choice.

Thirkell, Peter C. (1980), "Consumer Expectations, Disconfirmation and Satisfaction", Doctoral Dissertation, University of Western Ontario, (September).

This study investigated the interrelationships among time-of-purchase consumer expectations, the extent to which those expectations had been fulfilled and levels of consumer satisfaction. A model is proposed stating that consumer expectations and subsequent disconfirmation were said to be function of the consumer's past experience with the product, prepurchase search activity, individual differences and situational factors. The model was tested empirically using data obtained in a mail survey of 985 Canadian consumers who lived in BC, Manitoba, Ontario or Nova Scotia, and who had purchased one of four specific new car models (compact-Chevette, intermediate-Malibu, full size - Impala and "sports" - Camaro) from General Motors. All purchases had been made during the preceding twenty months.

The results supported the view that perceived performance is, "ceteris paribus", a function of expectations. Overall consumer satisfaction was shown to be a direct linear function of the extent to which expectations were positively or negatively disconfirmed. Furthermore, the magnitude of felt consumer satisfaction or dissatisfaction was found to be a direct function of the level of prior expectations held. Consumer expectations and subsequent levels of disconfirmation were found to be a function of prepurchase search activities, individual differences, and the household situation.

Thomas, Gordon D. (1975), "The Attitudes of Canadian Automobile Purchasers Toward Government Induced Produced Product Modifications," in Marketing in the 1970's and Beyond: The Proceedings of the 1975 Meetings of the Marketing Division of the Canadian Association of Administrative Sciences, Bent Stidson, ed., 1-8.

A mail survey of 1000 new car purchasers randomly drawn from across Canada resulted in a 45% response rate. The results indicated that Canadian Consumers who knew automobiles were strongly and overwhelmingly in favour of the idea of compulsory safety features and strongly supported Government involvement in this area. This study was unable to identify variables which explained the difference in attitudes held by consumers.

Train, Kenneth (1979), "Consumers' Response To Fuel-Efficient Vehicles: A Critical Review of Econometric Studies," Transportation, 8(1979), 237-258.

This paper reviews previous economic research on automobile demand and examines what the research tells us about how consumer will respond to fuel-efficient vehicles. Three categories of research were reviewed, namely aggregate econometric studies, disaggregate economic studies, and hedonic price analyses. It was shown that insufficient variation and too large a covariation among automobile characteristics (such as price, weight and length) are problems which hinder the usefulness of each type of analysis. Two methods to alleviate these problems are proposed for future research.

Triplett, Jack E. (1968), "Automobiles and Hedonic Quality Measurement," Journal of Political Economy, 77, 408-417.

Measures for one 4-door sedan body in each automobile model in which a 4-door sedan was available produced in the United States for the years 1960-1965 indicated that the hedonic measures employed by Griliches indicated negligible quality improvement in automobiles and provided no substantiation for the belief in an upward quality based on the consumer price index. However, it was shown that certain biases in the hedonic indexes themselves limit their validity as measures of quality change.

Urban Transportation Research Branch (1979), "An Inventory of the Automobile Non-Users in Canada," Canadian Surface Transportation Administration, Transport Canada, TP 1155, January.

This report investigates the numbers, characteristics and situation of automobile non-users, who are divided into two categories - those living in households without a private vehicle, and those who, while living in households with a private vehicle, are not the principle users. Analysis was based on Statistics Canada's Family Expenditure survey, 1969. Non-ownership of a private vehicle is primarily dependent on family income; other factors are family size, size of community and age of household head. Ownership rates are especially low amongst the elderly, unattached individuals and one-parent families. The majority of individuals with only limited access to a private vehicle are children.

Vanden Bergh, Bruce G. and Leonard N. Reid (1980), "Puffery and Magazine Ad Readership, "Journal of Marketing, 44 (Spring), 78-81

Some argue that puffery is believed by consumers and influences their purchase decisions and therefore has more potential to deceive consumers than fact-related claims. It also produces a discrepancy between consumer expectations for perceived and actual product values leading to a negative change in 1) consumer attitudes toward the company, 2) message credibility, and 3) intent to purchase. The article focuses on whether magazine auto ads containing puffery produced higher Starch readership than ads not containing puffery. Judges identified 30 puffery and 20 non-puffery ads whose mean noted, seen/associated, read most, read headline, read some copy, and saw illustrations readership scores were then compared. No significant differences were detected. The authors concluded that puffery does not enhance the "attention getting" value of magazine ads for automobiles.

Webb,Mack (1980), "Do Cash Rebates Impact On Sales?" Automotive News, August 4, 22.

Interviews with North Carolina automobile dealers found disagreement on whether heavily advertised cash rebate offers have had much effect on sales. Sales increases were due mainly to a decrease in interest rates on car loans and the growing acceptance of American-made small cars. Rebate sales by some dealers may trigger sales for other dealers since people shop around before purchasing.

Wells, William D., Frank J. Andriuli, Fedele J. Goi, and Stuart Seader (1957), "An Adjective Check List For the Study of "Product Personality"", Journal of Applied Psychology, 41(5) 317-319.

Respondents who were one hundred fraternity members at Rutgers University completed an Adjective Check List designed for survey use in the study of "Product Personality." Sterotypes associated with the owners of well-known automobiles were produced.

Westell, Dan (1981), "Product still held most important selling point," The Globe and Mail, May 13, B4

This article reports on an interview with Ronald Kovas, president of J. Walter Thompson Co. Ltd. of Toronto. J. Walter Thompson has been studying the components of brand loyalty. Kovas states that the M.A. auto market will bounce back when the North American manufacturers can produce a comparable car to the Japanese in terms of quality and mileage. The Japanese had a jump on the North American manufacturers in terms of the consumer's desire for fuel-efficient cars.

Westfall, Ralph (1962) "Psychological Factors in Predicting Product Choice," Journal of Marketing, 26(Apr), 34-40.

A convenience quota sample of 113 standard, 62 convertible, and 56 compact automobile owners, 18 years of age and over, were drawn by the author's graduate classes in Los Angeles and Chicago. The Thurstone Temperament Schedule of seven different characteristics was administered. Standard and compact owners appeared to be similar in personality while convertible owners appeared to be more active, vigorous, impulsive, dominant, and soci able and less stable and reflective than owners of the other two types of cars.

Wiseman, Frederick (1971), "A Segmentation Analysis on Automobile Buyers During the New Model Year Transition Period," Journal of Marketing, 35(April), 42-49.

Personal interviews were conducted with people who purchased a new automobile during September and October, 1969. The results indicated that differences existed between buyers of the six automobile classifications. Also, a relatively large number of independent variables were highly correlated with automobile purchasing behaviour during the transition period. The most important variables, as determined by the order of entry into the final discriminant functions were members of the "shopping patterns and usage expectations" variable set. Personality variables aided in the explanation process, but the overall contribution was less than that of the variables in either "shopping patterns and usage expectations" or the "socioeconomic and demographic" groups.

Wolpert, Henry W. (1979), "Why Conventional Automobile Styling Research May Become Obsolete," in Advances in Consumer Research, Volume VII, Jerry C. Olson, ed., Ann Arbor, Michigan, Association for Consumer Research, 22-24

The author, of Ford Motor Company, reviews the styling process and sets out the objectives (1. choose best style considering consumer tasks, 2. fit style to market place, 3. derive model offerings). The styling process may be affected by major changes including government regulation and fuel problems, e.g., while absolute importance of styling has remained same, the relative level has changed, now ranking below gas mileage. Styling segments are identified including: 1) conservative, functional styling with minimum of change 2) non-functional, "show" type styling, and 3) "follower"segment.

Wykoff, Frank C. (1973), "A User Cost Approach to New Automobile Purchases," Review of Economic Studies, 40(July), 377-390.

The conclusions indicated: that new and used cars are not perfect substitutes; new car services are qualitatively superior to those of used cars; when rental prices, derived from the user-cost approach, are used to estimate the automobile demand, new car purchases were price inelastic. Purchase prices have larger elasticities than the rental prices. New car income elasticities are around one. Cars are normal goods, not luxuries. Sixty to eighty percent of new demand results in current period purchases.